Patent Claims

1. Device for cleaning a thick matter delivery pipe (10) having an end-hose (18) provided on the outlet side, which includes a device (24) for introduction of a fluid under pressure into the thick matter delivery pipe (10) and a cleaning body (20) which, under influence of the fluid, lies against the full circumference of the inner surface of the thick matter delivery pipe (10) and is conveyable therethrough, characterized by a sensor (26) determining the consistency of the material situated in a section of the thick matter delivery pipe (10), a control unit (28), to which a signal is transmitted by sensor (26) upon a change in the consistency of the material, and a closure device (30) actuatable by the control unit (28) upon receiving the signal, for at least partial closure of the end-hose (18).

2. Device according to claim 1, thereby characterized, that the fluid is air and that the device (24) for introduction of the fluid is a compressor for producing compressed air.

3. Device according to claim 1, thereby characterized, that the fluid is water and that the device (24) for introduction of the fluid is a water pump.

4. Device according to one of the preceding claims, characterized by a slide valve (20) provided on the inlet side of the thick matter delivery pipe (10) for introduction or insertion of the cleaning body (22).

5. Device according to one of the preceding claims, thereby characterized, that the sensor (26) is calibrated for recognition of least two different material consistencies.

6. Device according to one of the preceding claims, thereby characterized, that the sensor (26) is a ultrasound sensor emitting ultrasound into the thick matter delivery pipe (10).

7. Device according to one of the preceding claims, thereby characterized, that the cleaning body (22) is comprised of a compressible material.

8. Device according to one of the preceding claims, thereby characterized, that the end-hose (18) includes a jacket pipe of elastomeric material, preferably of rubber, and that the closure device (30) includes a squeeze valve for narrowing the internal width or for closure of the end-hose (18).

9. Process for cleaning a thick matter delivery pipe (10) with an end-hose (18) provided on the outlet side, in which fluid under pressure is introduced into the thick matter delivery pipe (10) and in which a cleaning body (22) is conveyed through the pipe under the influence of the fluid, the cleaning body lying against the entire circumference of the inner diameter of the thick matter delivery pipe (10), thereby characterized, that the consistency of the material located in a section of the thick matter delivery pipe (10) is determined by means of a sensor (26), that the sensor (26) transmits a signal to the control unit (28) upon a change in the consistency of the material, and that the control unit (28) actuates a closure device (30) upon receiving this signal, as a result of which actuation the end-hose (18) is at least partially closed.

10. Process according to claim 9, thereby characterized, that the fluid is compressed air, which is introduced into the thick matter delivery pipe (10) via a compressor.

11. Process according to claim 9, thereby characterized, that the fluid is water, which is introduced into a thick matter delivery pipe (10) via a water pump.

12. Process according to one of claims 9 through 11, thereby characterized, that the cleaning body (22) is introduced by a slide valve (20) provided at the inlet side of the thick matter delivery pipe (10).

13. Process according to one of claims 9 through 12, thereby characterized, that the sensor (26) recognizes at least two different predetermined material consistencies.

14. Process according to one of claims 9 through 13, thereby characterized, that the sensor (26) impinges the thick matter delivery line (10) with ultrasound and determines the material consistency by evaluation of the reflected ultrasound.

15. A squeeze valve insertable upon a flexible pipe line, in particular an end-hose (18) of a thick matter delivery line (10), characterized by a hose (34) of an elastomeric material enclosing a ring-shaped hollow space (36), which hose (34) includes an inlet and outlet opening (40) for filling and emptying the hollow space (36) with a gas under pressure, and a ring-shaped jacket (44) receiving the hose (34) on its inside, which prevents expansion the radially outwards direction.

16. Squeeze valve according to claim 15, thereby characterized, that the hose (34) is covered on its outer side, opposite the hollow space (36), with a textile fabric layer (38).

17. Squeeze valve according to claim 15 or 16, thereby characterized, that the hose (34) is embedded in a sleeve (32) of elastomeric material.

18. Squeeze valve according to claim 17, thereby characterized, that the sleeve (32) surrounds the jacket (44).

19. Squeeze valve according to claim 17 or 18, thereby characterized, that the sleeve (32) has the shape of a hollow cylinder and that its inner diameter is at least as large as the outer diameter of the pipe line.

20. Squeeze valve according to one of claims 15 through 19, thereby characterized, that the jacket (44) is comprised of a preferably multi-layer textile or fabric.

21. Squeeze valve according to one of claims 15 through 20, thereby characterized, that a valve (42) is provided in the inlet and outlet opening (40).

22. Use of the squeeze valve (30) according to one of claims 15 through 21 as closure device for a device for cleaning a thick matter delivery pipe according to one of claims 1 through 8 or as the case may be for a process according to one of claims 9 through 14.